

ATCO

AMATUER

TELEVISION IN

CENTRAL

OHIO

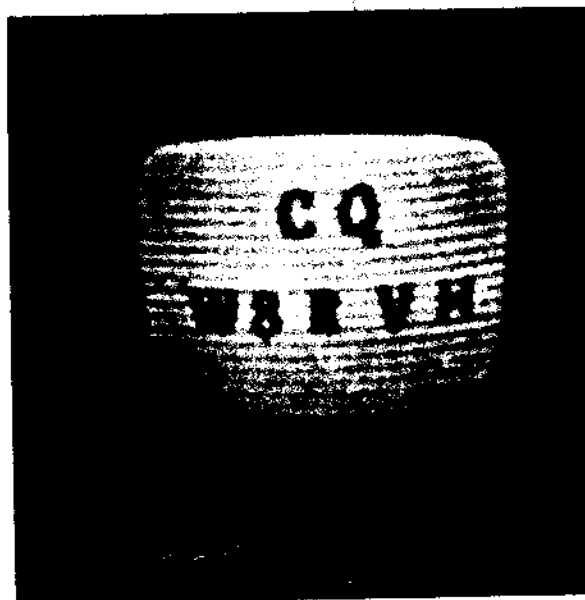
SEPT., 1982

A QUARTERLY ATV NEWSLETTER

VOLUME 1, ISSUE II



THE DAYTON REPEATER



"DICK" NEW CARLISLE

"THE OUT OF TOWNERS"

"THE INSIDE COVER"

(or I forgot to put it in the newsletter last time
or almost forgot this time)

- The next ATCO meeting will be held on September 25, 1982 at 1:00 P.M. That's the last Saturday of the month. A location for the meeting has yet to be found. If you know of a place or can suggest something I might follow up on, please let me know.
- It's beginning to look like the repeater will be installed Labor Day weekend. Keep your receivers on 425.25 and 147.45.
- User codes for the repeater:

Ø43 -- TX on. ID for 3 minutes.
#Ø -- resets Ø43 when on.
Ø62 -- TX on. Open "window" for 3 minutes.
#0 -- resets Ø62 when on.
Ø76 -- Brings up video Bulletin Board.
Ø55 -- Takes down video Bulletin Board.
#0 -- DROPS MACHINE

- Repeater Spec's and Features:

- 0.5db. N.F. preamp mounted at antenna
- will pass color.
- subcarrier squelch
- audio input on 147.45 and subcarrier
- takes carrier and horizontal sync to bring up on 439.25
- video bulletin board (see codes)
- 80 watts on peak
- 875' ASL, 106' Tower (200' HAAT)
- DX windor (see codes)
- 6 db gain slot antennas (Horn. Polar)

- The Newsletter

This newsletter made possible with the help of WA8RMC, WB8TMP WB8LGA and WB8INY. Art and Dave sent the antenna and camera technical information. Chuck supplied me with the repeater information. John, WB8INY, who is not yet on ATV, produced the mailing list and labels, as well as the activity list on his IBM P.C. for me. Thanks Art, Dave, Chuck, and John for your help. I would also like to thank A5 Magazine for the stuff I stole.

I need more help with the newsletter if it's to keep going. The next issue is scheduled for December. I will take anything from hand written notes to "camera ready" material. I need ideas for the cover, technical articles, editorials, cartoons or anything that might be of interest to ATVers. If you have any ideas, drawings, pictures or any thoughts you would like to see in the newsletter, please give me a call - Ken, WA8RUT, 261-8583.

25330
Repeater on air from 8 a.m. to 10³⁰ PM
N8DUK Rom - 125°
BMR Bill - 125°
RMR LEO - 135°
Repeater 60° -
437.6
434.3

antenna preamp
LGA # 30 45
60

ATCO NEWSLETTER

ATV MEETING

Last quarters ATV meeting of June 26 was very well attended, with 22 active ATVers present. Although I didn't keep the minutes of the meeting, I will try to re-cap what took place.

- The ATV repeater, constructed by Chuck, WB8LGA, was on display. Chuck presented the function and features of the "machine" and answered many questions about its operation.
- The major "opportunity" talked about was a "home" for the machine (we lost our space on the new Channel 10 tower, due to a budget cutback).
- Several potential sites were discussed with no specific conclusions reached (one 100 foot tower, centrally located that looks promising, failed to materialize).
- The formalization of the "club" was discussed and then tabled until the next meeting (good officers are hard to come by...)
- Our "Chancellor of the Exchequer" (Fred, K8JGY) reported that our clubs secret bank account was woefully low. Fred's actual report was something like "our clubs current cash-flow position as stated on the balance sheet and form 10K...wouldn't make a down payment on a six pack of beer" (i.e. about \$3.00). However, we were current with our debts.
- W8FRQ video taped the group and activities (later when he played the tape on the air, for some reason he only pointed the camera at me when I had a bottle of beer in my hand...or did I always have a bottle of beer in my hand?...I can't remember!)
- Several other topics were discussed relating to the clubs future and expansion.

The meeting ended so that we could look at the WA8RMC monster array and partake in the food. Many thanks to Art and his XYL for being such a fine host.

THE REPEATER STATUS

The repeater itself is undergoing final testing and clean-up. Chuck had a major battle with every repeaters nightmare: desense. The problem is now solved, with the last 3 - 6 db. being a real "bear". The repeater is very near desense free at the 100 watt power level.

The two slot antennas are built and also in the testing phase. Art, WA8RMC, is leading the charge on the antennas. The antennas are horizontally polarized, four slots per antenna, that yeilds a measured 6 db. of gain. As of this writing, $1/2\lambda$ slots seem to work better than $3/4\lambda$ slots.

The new site, a 106' tower in Westerville, has been checked out and hard line run up it. The test antenna used was a unity gain stacked turnstile (see construction detail elsewhere in this newsletter.)

A test signal (with video) running about 1 watt ERP yeilds P3 and 4 reports from all over the Central Ohio area. Chuck, WB8LGA, some 30 - 35 miles away, reported P2.5-P3 with the 1 watt ERP signal. Calculations show that the repeater should be 20 to 22 db. better.

When will it all come together and be on the air? No firm date has been set... however, an active ATV should watch 425.25 long about Labor Day weekend.

\$\$\$\$\$\$\$

As reported elsewhere in this newsletter, the club funds are very low. We now have a monthly committment of \$10.00 to pay for the power the repeaters use. Out of the current balance of the club account, we couldn't pay for 10 days. Get ahold of Fred, K8JGY, or send him a check to help pay for some of the on-going cost for the repeater.

DEMONSTRATION UNITS

Now is the time to dig out that old converter and 450 antenna that's in your junk box and check it out for loan. Once the repeater gets on the air, many of your Non-ATV friends will want to tune in and watch. This is the best way I know to get new "blood" into our ranks.

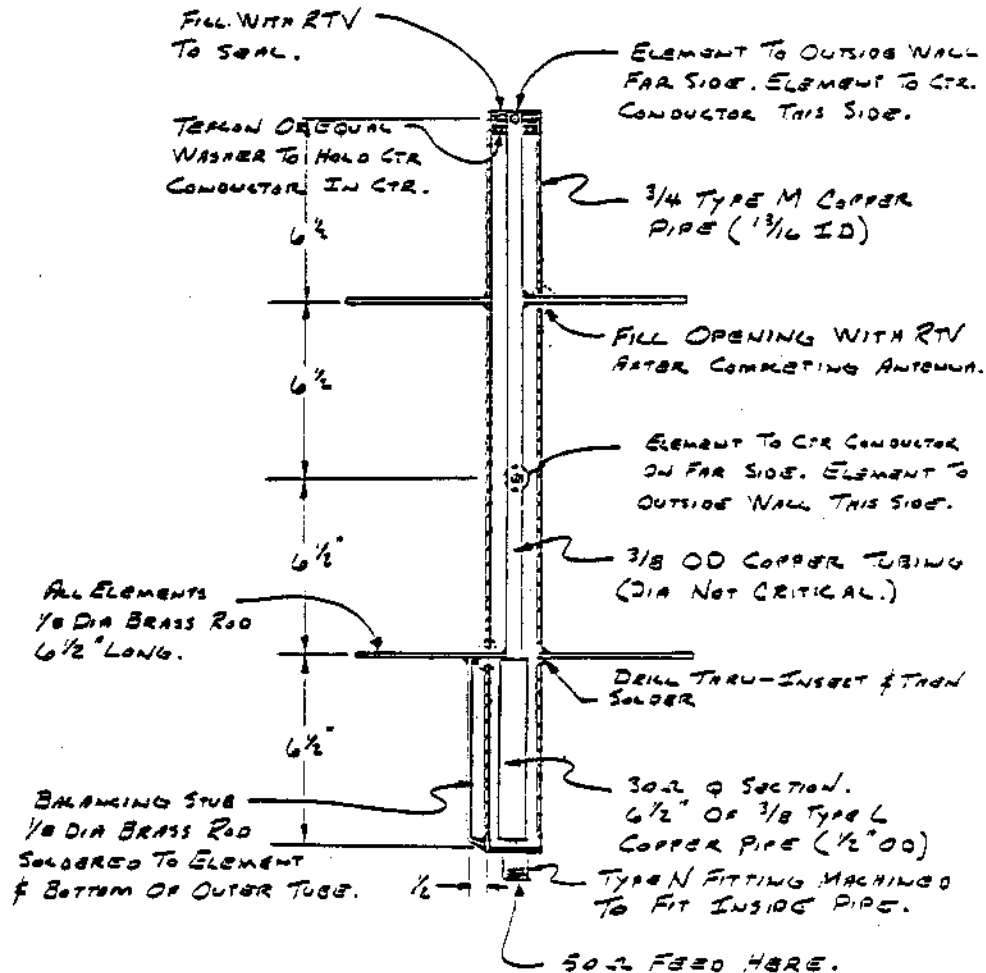
ATV NETS

Don't forget about the ATV net at 8:00 P.M. on Tuesday nights. The net meets on 147.45 FM and we average 10 - 15 checkins each Tuesday. The net format is a semi-technical and semi-social gathering of local ATVers. 147.45 is monitored most every evening and there are generally several ATVers around to run tests or shoot the breeze.

A5 CONTEST

The weekend of August 20-22 was the A5 Contest, sponsored by A5 Magazine. The contest was alot of fun and I look forward to it again next year. I think a few rule changes are in order, however mostly in the area of scoring. The major problem being the heavy weighting given color stations. In Central Ohio, we are lucky to have many Color ATV Stations on the air (which helped my final score a great deal). How did I do?...20 contacts, 9 two-way color exchanges, 2 one-way color contacts, 14 stations within 12 miles, best DX: 94 miles, 12 stations received P5!...final score 5,685. I hope next year we have a better turn out of the ATVers in Central Ohio. WB8LGA and I are the only two I know that plans to submit our score. Out of the 30+ ATVers in the area, thats not a very good showing.

UNITY GAIN HORIZONTALLY POLARIZED
CIRCULAR RADIATION PATTERN
2 BAY STACKED TURNSTILE ANT.
FOR 439 MHz.



HORIZONTAL 439mhz TURNSTILE FOR ATV

This unique design for a turnstile antenna was designed and built by Art, WA8RMC. This is the antenna that was used to check out the repeater site in Westerville. It appears to have unity gain and is almost omni-directional. The antenna shows about ± 5 db. pattern, varied when rotated and received by a station 30 miles away. Be careful when selecting the RTV that it is the non corrosive type. The expected VSWR, when fed with 50ohm line, should be nearly flat at 439mhz and should have low VSWR (2:1) across the entire 420-450 band.

The diagram shows a two-stage video amplifier circuit labeled "Before". The input signal, labeled "60 Hz AC", is coupled through a capacitor to the base of a common-emitter NPN transistor (Q17). The base is biased by a voltage divider consisting of a 22K resistor connected to a +9VDC supply and another 22K resistor connected to ground. A .001μF bypass capacitor is connected from the junction of the biasing resistors to ground. The emitter of Q17 is connected to ground through a 10K resistor. The collector of Q17 is connected to a +9VDC supply through a 10K resistor. The output of the first stage is taken from the collector and is labeled "Vertical Sync Pulses at TP108". This signal is shown as a square wave pulse train. The second stage is a common-emitter NPN transistor (Q19) whose base is driven by the output of the first stage. Its base is also biased by a voltage divider (22K to +9VDC, 22K to ground) with a .001μF bypass capacitor. The emitter of Q19 is connected to ground through a 10K resistor. The collector of Q19 is connected to a +9VDC supply through a 10K resistor. The final output is taken from the collector and is labeled "+9VDC Regulated".

60-Hz TIMEBASE

1 50-Hz OUT

2 7 CRYSTAL FREQUENCY OUT (3.579545 MHz)

3 IF USE TWO 10M IN SERIES.

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MOTOROLA SPECIFIES THAT $C1 = 30\text{pF}$ AND $C2 = 6.36\text{pF}$. OK TO USE SIX 4.7pF CAPACITORS IN PARALLEL OR 47pF CAPACITOR FOR C1. TRY TUNABLE CAPACITOR (e.g. 5-50pF) FOR C2. TO TUNE, CONNECT FREQUENCY METER TO PIN 2. TUNE C2 UNTIL FREQUENCY IS 3,579,545 Hz. ACCURACY FAIRLY GOOD EVEN IF YOU DON'T TUNE C2.

Remove Q117 and replace with 60 Hz Time Base mounted on small board. Total Cost of Conversion was about \$2.00 using Radio Shack Parts. Could also be switched in or out of circuit for either A.C. or D.C. operation.

WB8TMP

When the repeater goes on the air, ATV mobile operation will become much more practical. This modification to Sanyo VC1600X camera is just the thing to get it on 12volts DC. Although this modification puts the camera on 12v and is disabled for operation for 110vac, a switch and a diode would make it switchable from 12VDC to 110VAC. This approach should work for similar model cameras. In addition, Dave, WB8TMP, who designed this modification believes that the Robot 400 Camera and the Sanyo 1600X is the same camera. Here is the opportunity to join W8DMR, WB8TMP and WA8RUT on ATV mobile. Give it a try - its lots of fun.

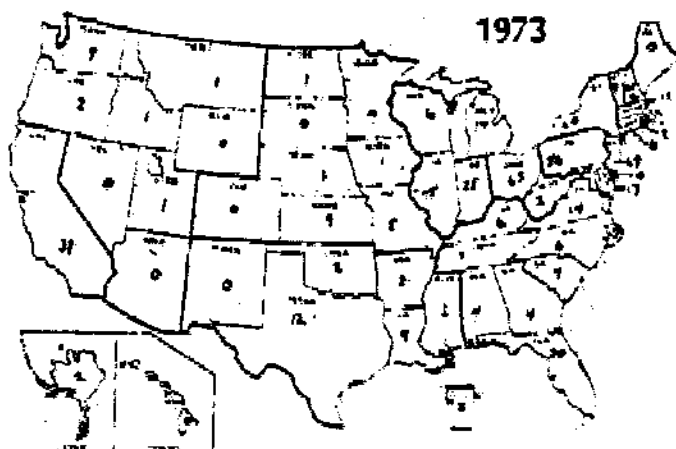
AMATEUR TELEVISION ACTIVITY

Repeaters, Clubs and Groups

Amateur Television "repeaters" have played a major role in the growth of FSTV. ATV activity varies between simplex and repeater operation, horizontal versus vertical polarization across the country. Thanks to the persistent efforts of Bruce Brown and the famous "Metrovision ATV Club," ATV saw its first licensed FCC FSTV Repeater "WR4AAG" serving the greater Washington, D.C./Baltimore, MD. area. Today, there are over 60 known ATV relaying facilities throughout the world. The trend toward specialized communications by Amateurs along with the rapid development of the state-of-art will provide for steady growth in the ATV field. It is just a matter of time before the first "handheld ATV" units are developed providing both audio and video picture reception and transmissions. The future of ATV looks very exciting, and the thing to do is to be a

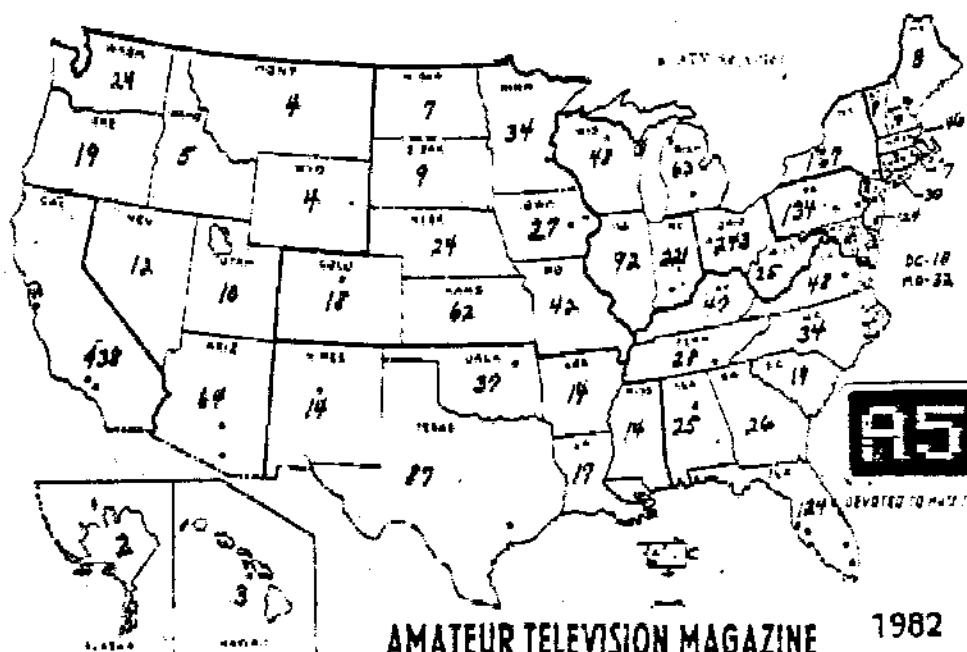
part of it!

As presented below, is a study comparison of known ATV activity in the United States as published in 1973 and a look at today's ATV activity in 1982. These figures were compiled from subscription files of A5 AMATEUR TELEVISION MAGAZINE, various surveys conducted within the past two years, Club and Group activity reports, etc. This is the most accurate estimate of FSTV activity within the United States. Errors that exist will only boost the numbers per state given. It is estimated that over 3,000 Amateurs operate FSTV in the United States with perhaps 5,000 worldwide. This relates to about 1% of the total Amateur Radio population and with other modes of A5 emissions such as SSTV increases to about a 2-3% figure.



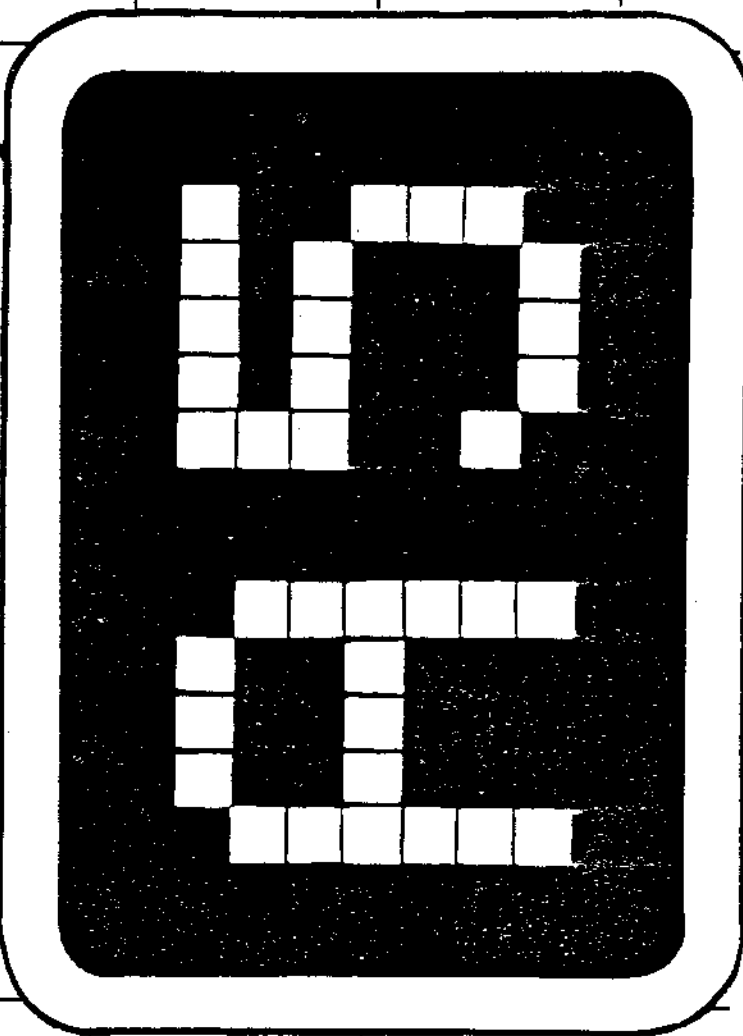
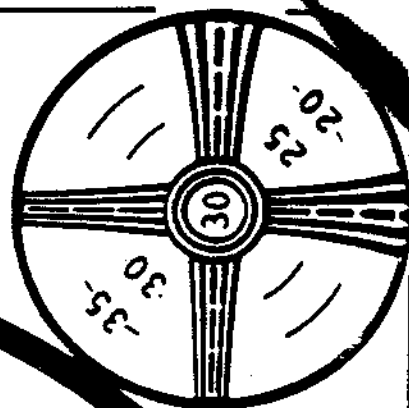
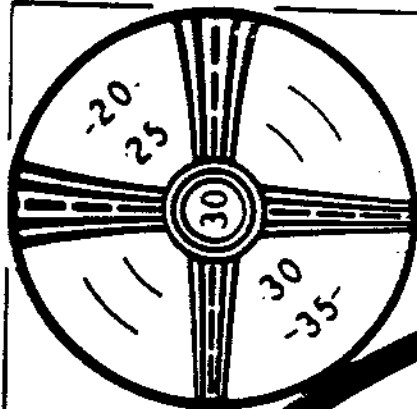
Known United States FSTV
Stations April 1982
Information compiled from A5 Magazine
subscription files, surveys, ATV club
rosters, reporting groups, etc.

FSTV GROWTH STUDY BY A5 ATV MAGAZINE

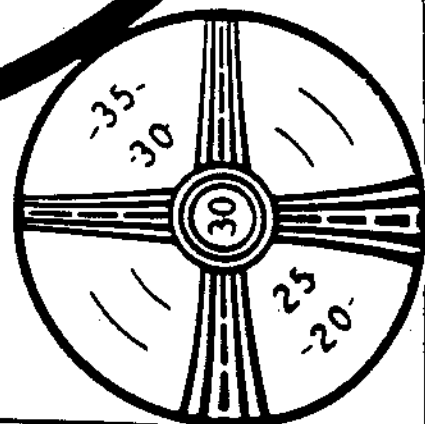
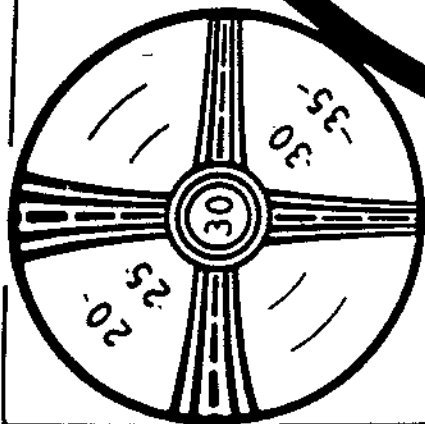


* Designate Known
ATV Repeater Locations

AMATEUR TELEVISION MAGAZINE 1982



AMATEUR TELEVISION STATION



ACTIVITY LIST

<u>STATION</u>	<u>NAME</u>	<u>RX</u> <u>TX</u>	<u>ACTIVE?</u>	<u>COLOR</u>	<u>LOCATION</u>
KBAEH	Wilbur	TR	Y	TR	Reynoldsburg
KBAQH	Charles	TR	Y		Springfield
KBJGY	Fred	TR	Y	TR	Gahanna
KBMGA	Jerry		N		Lancaster
KSOCL	John	TR	Y	TR	Mt. Vernon
KSPYQ	Ralph	TR	Y	R	Mt. Victory
KABEEE	James	TR	Y	R	Marion
KABGZQ	Warren	TR	Y		
WBAER	David	TR	Y	TR	Reynoldsburg
WBARE	Terry	TR	Y	TR	Upper Arlington
WBCCW	John	TR	Y	R	Grove City
WSDMR	Bill	TR	Y	TR	SE Columbus
WBERD	Bob	R	Y	R	Powell
WBFRO	Bill	TR	Y	TR	E. Columbus
WBOZA	Russ	TR	Y	R	Reynoldsburg
WBAMA	Leo	TR	Y	TR	S Columbus
WBRZG	Chick	TR	Y	R	Grove City
WBUTD	Nick	R	Y		Columbus
WABQU	Bob	TR	Y		Reynoldsburg
WABRMC	Arthur	TR	Y		Westerville
WABRUT	Ken	TR	Y	TR	N Columbus
WBBCJW	Dale	TR	Y		North Columbus
WBBDML	Jim	TR	Y	TR	N Columbuss
WBBDZW	Roger	TR	Y	R	Dublin
WBSFWQ	Chris	R	Y		Upper Arlington
WBSLGA	Chuck	TR	Y	TR	Marengo
WBSLGH	Ben	TR	Y		Columbus
WBSPBU	Ron		N		Reynoldsburg
WBSTMP	Dave	TR	Y		Ohio State Univ
WBZFM	Charlie	TR	Y	TR	Worthington
WDSIYX	Herb	TR	N		Columbus
WDSKVV	Fred	TR	Y		Lancaster
WDSLWC	Bill	TR	Y		Athens
WDSNBA	Joe	TR	Y		Pataskala
WDSRXX	John	TR	Y	R	N Columbus



"WSDMR SAID I WOULD HAVE LOTS AND LOTS OF FUN ON ATV...
WHEN DOES THE FUN BEGIN?"

-KBAEHV Wilbur L Wollerman, 1672 Rosehill Rd., Reynoldsburg, OH, 43068, 866-1.

KBAOHV Charles Tucker, 1500 E. Leffel Ln, Springfield, OH, 45505,
+KBJGY Fred A Yost, 330 Dellfield, Gahanna, OH, 43230, 473-6484.
KBMGA Jerry Larabee, 856 Houfek Dr, Lancaster, OH, 43130,
KSOCL John J Champa, PO Box 297, Mt. Vernon, OH, 43050,
KBPYQV Ralph Brown, Box 65, Mt. Victory, OH, 43340,
KSRNM Charles Cohen, RFD 7-Box 208 #16 Clearview Dr, Newark, OH, 43055,
KABEEE James H Smith, 596 Rochelle, Marion, OH, 43302,
KABGZQV Warren G Duemmel, 3488 Darbyshire Dr., Columbus, OH, 43220, 876-5986
NBBKM Bill A Adkins, 1636 Waterstone Ct, Worthington, OH, 43085, 764-0195
N8CNP Evertt W Sharp, Rt 4 2238 Woodcrest Dr, Wheelersburg, OH, 45694,
-WBAER David S Sears, 1678 Kaiser Dr., Reynoldsburg, OH, 43068, 861-0004
-WBAREV Terry Meredith, 1524 Ashdowne Rd, Upper Arlington, OH, 43221, 488-9988

WBBKO Bob Adams, 1812 Sandalwood Pl, Columbus, OH, 43229, 846-0949
WBCCW John L Ferrell, 3722 Wagner Ct, Grove City, OH, 43123, 875-1214
WBERD Bob Dixon, 2073 Highland Dr, Powell, OH, 43221, 488-5325
WBFHQ Bill L Ennis, 146 S. Weyant Ave., Columbus, OH, 43213, 235-6397
-WBOZA Russ Sievert, 1411 Lonsdale Rd, Columbus OH, 43, 43227, 866-2406
-WBRMA Leo F Teal, 1308 Innis Ave, Columbus, OH, 43207, 444-7124
-WBRVH Dick Goode, 9391 Ballentine Rd., New Carlisle OH, OH, 45344, vol 3
WBRZG Chick Miller, 4966 Haughn Rd, Grove City, OH, 43123,
WBUTD Nick Herbert, 6169 Chinaberry Dr, Columbus, OH, 43213,
WASQQUV Bob Dervin, 2463 S. Taylor Rd, Reynoldsburg, OH, 43068,
WABRMC Arthur Towslee, 180 Fairdale Dr., Westerville, OH, 43081, 891-9273
-WABRUT Ken Morris, 3181 Gerbert Rd, Columbus, OH, 43224, 261-8583
WABZAH Tom Park, 4 Handel Ln, Cincinnati, OH, 45208,
WBOQCDV c/o A5 Magazine, PO Box H, Lowden, IA, 52255,
-WBSQJW Dale Elshoff, 2987 Pontiac St, Columbus, OH, 43224, 268-4924
-WBSMLV Bill Parker, 2738 Floribunda Dr, Columbus, OH, 43209, 235-3001
-WBSDZWV Roger M, PO Box 142, Amlin, OH, 43002, 876-2788
-WBSFWQV Chris J Vojsak, 2050 Ellington Rd., Columbus, OH, 43221,

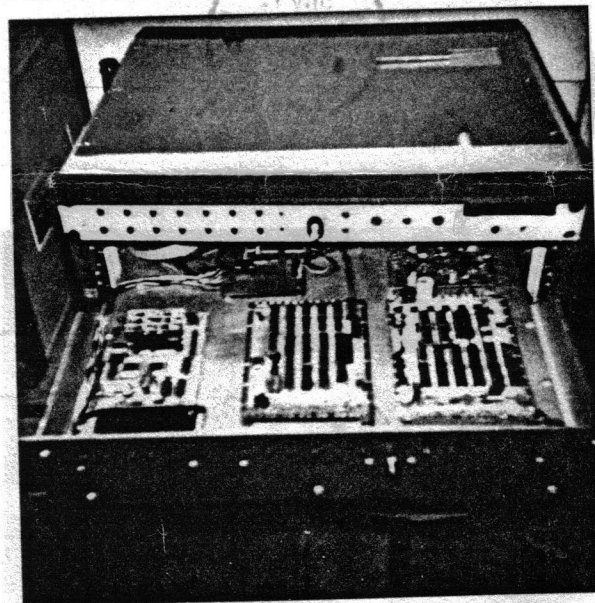
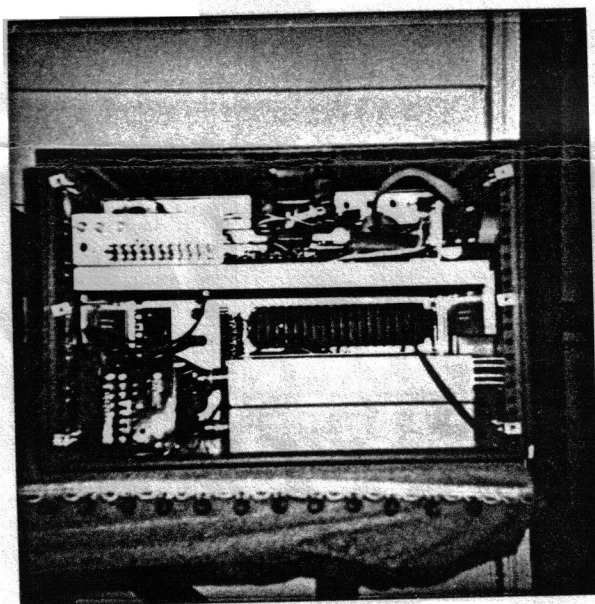
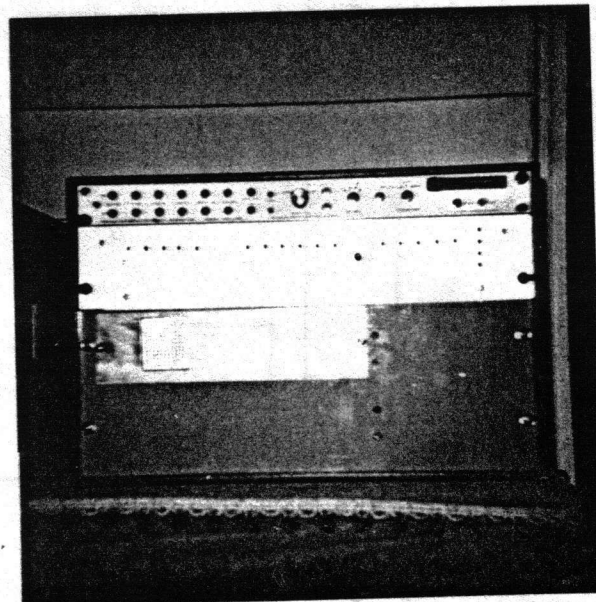
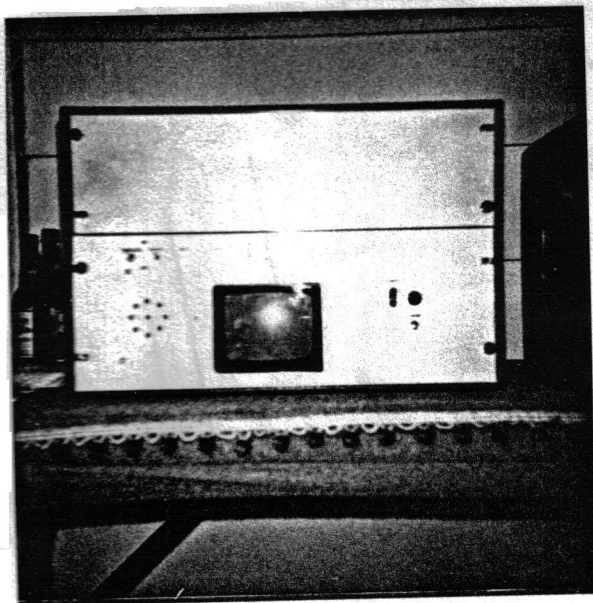
WBSINY John W Chapman, 5463 Worthington Terrace, Columbus, OH, 43214, 885-6899
-WBSLGA Chuck Beener, 2548 State Rt 61, Marengo, OH, 43334, 864-7224
WBSLGH Ben Miller, 703 French Dr, Columbus, OH, 43228,
WBSFBU Ron Frank, 6568 Carriage Ln, Reynoldsburg, OH, 43068, 864-1574
WBSMP Dave Bourne, 157 W Patterson, Columbus, OH, 43202, 291-8422
36 WBSZFM Charlie Bruns, 995 Rutland, Worthington, OH, 43085,
WBSIYX Herb Harmon, 1291 Westphal Ave, Columbus, OH, 43227,
WBSKVWV Fred C Lamb, 761 S Maple, Lancaster, OH, 43130,
WBSLWC Bill Warthman, 48 Mulligan, Athens, OH, 45701,
WBSNSA Joe Hahn III, Box 398, Pataskala, OH, 43062, 927-9040
WBSRXX John Perone, 5426 Teakwood, Columbus, OH, 43229, 890-7707

WBSML JIM DIEGUEZ 2010 FENTON ST COLUMBUS OH 43224 262- 6108

L - VER
R. HORIZ

W 8 RVH
Richard Goode

THE WB8LGA ATV REPEATER



AS SHOWN AT THE JUNE ATV MEETING

- 439.25 IN
- 425.25 OUT
- 80 WATTS PEAK
- GROUND ELEVATION 875'
- T.T. DECODER(UP TO 30 DB TWIST)
- REPEATER WILL GIVE 'P' REPORT FOR 30 SEC. ON TAIL
- VIDEO BULLETIN BOARD(T.T 076 UP,055 DOWN)
-
- 147.45 AUDIO IN (T.T. 043)
- 0.5 DB N.F. RCVR MAST MOUNTED
- 6DB GAIN SLOT ANTENNAS (HORZ. POL)